ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

DATE: February 1999

BUDGET ACTIVITY: 5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE: 0604280A Joint Tactical Radio

PROJECT: D162

COST (*In Thousands*)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D162 Joint Tactical Radio System	0	0	36797	68296	80723	66224	51387	40516	0	343943

A. Mission Description and Budget Item Justification: The Joint Tactical Radio System is a joint Research and Development program with the Army as the lead Service that will lead to the Services acquiring a family of affordable, scaleable, high-capacity, interoperable Line of Sight (LOS) and Beyond Line of Sight (BLOS) tactical radios. The singular functionality of current systems requires a commensurate number of unique discrete radio systems. These systems lack the connectivity and throughput capacity to support the required simultaneous networked voice, video, and data operations with low probability of intercept over multiple frequency bands. In addition, each current system requires significant allocation of space, weight, power, and cooling on weapons systems platforms, and has associated with it a costly logistics infrastructure. Therefore, a consolidated systems approach to provide substantial increase in capability and interoperability, and to provide overall cost savings mandate an approach like JTRS. JTRS activity in this program element creates the foundation for achieving network connectivity across the RF spectrum. This program element will provide an open standards architecture monitoring and compliance, a supporting certification infrastructure, the development of a set of software-based legacy tactical waveforms as well as a new wideband waveform which functions in networked environment and will operate on hardware that is built to JTRS architecture standards. Together, the architecture, the hardware, and the software will yield software programmable and hardware configurable digital radio systems that provide increased interoperability, flexibility and adaptability. The open standards based architecture will also provide the path for future hardware and software growth of delivered systems at minimal cost by allowing the Services to take advantage of advances in technology being realized in the commercial wireless communications marketplace. The JTR will provide the operational forces with an upgraded communications capability, for more effective battlespace management and interoperability among Command, Control, Communications, Computers and Intelligence (C4I) Systems supporting the warfighters' goal of realizing a fully digitized battlespace.

B. Program Change Summary	FY 1998	FY 1999	FY 2000	FY 2001
Previous President's Budget (FY 1999 PB)	0	0	0	0
Appropriated Value				
Adjustments to Appropriated Value				
a. Congressional General Reductions				
b. SBIR / STTR				
c. Omnibus or Other Above Threshold Reductions				
d. Below Threshold Reprogramming				
e. Rescissions				
Adjustments to Budget Years Since FY 1999 PB			+36797	+68296
Current Budget Submit (FY 2000 / 2001 PB)	0	0	36797	68296

Change Summary Explanation: Funding – FY 00-05 funds realigned to support the JTRS program.

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FY 1998 Accomplishments: Project funded in PE 0603280A.

FY 1999 Planned Program: Project funded in PE 0604280A (BA 3), project D152 in FY 1999

FY 2000 Planned Program:

- 3381 JTRS Program Support
- 24365 Re-Code Initial JTRS Legacy Waveforms Complete Architecture Development, Validate Architecture Compliant Hardware
- 2984 Certification Infrastructure
- 6067 JTRS Technical Support

Total 36797

FY 2001 Planned Program:

- 3548 JPO Program Support
- 9855 Technology Insertion
- 38829 Re-code Additional Legacy Waveforms, Architecture Expansion
- 6899 JTRS Technical Support
- 9165 Certification Infrastructure

Total 68296

B. Other Program Funding Summary	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost
RDTE, 0604805A, D615 JTRS Ground Domain Integration, Army			4904	5183	3581	6001	12281	9810		21760
RDTE, 0604280A, D152 JTRS, BA3		10033								

C. Acquisition Strategy: With approval of the FY 98 reprogramming/new start approval and FY 99 appropriation, the JTRS task force was stood up as the JTRS Joint Program Office (JPO). The JPO will be responsible for common core activities including developing, maintaining, and evolving the JTRS open standards architecture, providing re-coded versions of legacy waveforms to operate on JTRS architecture compliant hardware, and providing a certification infrastructure for hardware/software compliance. The JPO hosted an Industry Day for the architecture definition phase on 18 Nov 1998. On 20 Nov 1998, the JPO released a solicitation to industry for the purpose of having an industry team(s) provide a baseline definition for the JTRS architecture. This is the first step in the development of the JTRS open standards architecture. This step will be followed by a second solicitation for the development of the selected baseline definition and the validation of the resulting JTRS architecture, again using an industry team(s). Following the architecture's validation and a market survey of industry's capabilities, a program review will occur. Following that review, the Services, which retained acquisition and weapon system integration responsibility, will begin acquiring scaleable JTRS systems commensurate with Service migration plans. In addition to its core functions, the JPO will provide support to Service Program Management Offices (PMO) as they acquire the family of JTRS hardware.

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Through industry teaming, the JTRS program and architecture will capitalize on previous government sponsored software definable radio activity such as SPEAKEASY, JCIT, TCDL, GLOMO, and ULTRACOM, WRN as well as similar efforts occurring in the commercial wireless information transfer sector. The development of this open standards architecture will foster and facilitate increased competition at all levels for initial acquisitions as well as for future hardware and software upgrades.

D. Schedule Profile	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
JTRS Initial Architecture Development*								
Conduct Market Survey			4Q					
Milestone II Review				1Q				

*Funds reside in PE 00603280 for FY98 and PE 0604280A, D162, Budget Activity 3.

ARMY RDT&E COST ANALYSIS (R-3)

DATE: February 1999

BUDGET ACTIVITY: 5 - Engineering and Manufacturing Development

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PROJECT: D162

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Architectural Development, Validation, Waveform re-coding	FP/Other Transactions (OT)	TBD		*		24365	1Q	38829	1Q	169700	232894	
b. Certification Infrastructure	FP	TBD				2984		9165	4Q	31167	43316	
c. Technology Insertion	FP	TBD						9855	4Q	35979	45834	
Subtotal Product Development:						27349		57849		236846	322044	

Remark: *Funded under PE 0602480, Budget Activity 3, Project D152 in FY 1999

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. FFRDC – MITRE and Other contracted Technical Support	FFP	TBD		*		6067	1Q	6899	1Q	12113	25079	
Subtotal Support Costs:						6067		6899		12113	25079	

Remark: *Funded under PE 0602480, Budget Activity 3, Project D152 in FY 1999

III. Test and Evaluation: Not applicable.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Program Support	TBD	TBD		*		3381	TBD	3548	TBD	6965	13894	
Subtotal Management Services:						3381		3548		6965	13894	

Remark: *Funded under PE 0602480,Budget Activity 3, ProjectD152 in FY 1999

Project Total Cost:						36797		68296		255924	361017	